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Pioneering Environmental Law:
The Army Corps of Engineers and the Refuse Act

by

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IN THE LITERATURE dealing with the American environment, the U.S. Army engineer is a familiar but by no means favored figure. The scholarly strictures of Arthur Maass and Samuel P. Hays—and the more impetuous attacks of Arthur Morgan, Harold L. Ickes, and William O. Douglas—are familiar to every student.¹ Indeed, quite a respectable bibliography could be compiled of all the publications that depict the engineers as conservatives, if not “heavies,” in all that concerns the environment. This essay cannot hope to answer a cannonade so broad in front and so varied in caliber. However, a study of that curious and important law, the Refuse Act of 1899, may suggest a broader perspective on the Corps’ role in protecting the nation’s waterways.²

The public spotlight fell upon the Refuse Act for the first time in its shadowed history during the environmental crusade of 1969—

¹ Arthur Maass, *Muddy Waters: The Army Engineer and the Nation's Rivers* (Cambridge, Mass., 1951); Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890–1920* (New York, 1969), 199–218; Arthur E. Morgan, *Dams and Other Disasters: A Century of the Army Corps of Engineers in Civil Works* (Boston, 1971); William O. Douglas, “The Public Be Dammed,” *Playboy*, XVI (July 1969), 143–182.

² Journalistic, legal, and polemic treatments of the Refuse Act abound. See, for example, James M. Fallows, *et al.*, *The Water Lords* (New York, 1971), 204–216; Ray M. Druley, “The Refuse Act of 1899,” *Environment Reporter*, Jan. 28, 1972, and sources cited therein.

1971. Then seventy years old, the so-called Refuse Act—really section thirteen of the Rivers and Harbors Act of 1899—apparently gave the Corps of Engineers the power to regulate or shut down any effluent source on any navigable waterway. Journalists assailed the Corps for failing to use the act to stop pollution, while lawmakers made headlines with their efforts to tune up the machinery of enforcement. Reams of newspaper copy told of huge fines which the courts had begun to levy on polluters under the Refuse Act, and—more intriguing to Everyman—revealed that ordinary citizens who provided proof of violations could collect a portion of the fines. The fact that the nation's most effective law against water pollution dated from the administration of William McKinley received, and deserved, a good deal of ironic comment. But precisely how such a law had come into existence nobody seemed to know. Its legislative history was slight. Who had wanted it, and why? Who, in the midst of the Gilded Age, had pushed for the adoption of such an unlikely law? Understandably, no one had a very clear picture of the act's origins—for the answer lay primarily where no one looked for it, in the history of the Corps of Engineers.³

Yet the engineers' involvement with the waterways formed a sufficiently familiar story. Acquired during the decades when West Point was the nation's only school of engineering, the Corps' authority over navigable streams grew with the expansion of federal power. After the Civil War, increasing appropriations for river and harbor works brought a national public-works organization into being. For the first time in American history, a single agency touched every body of navigable water in the nation. Engineer offices (or districts) had spread widely by 1866, and geographical divisions were set up in 1888. In every district, an engineering officer hired a staff of civilian engineers, clerks, and laborers. From the local offices a stream of reports brought the chief of engineers a comprehensive picture of existing conditions on the waterways and of the federal projects that were changing them. In the generation that followed the Civil War, these reports frequently complained about a problem that was new to the national government—the

³ For the text of the Refuse Act, see the *U.S. Statutes at Large*, XXX, 1152. Folksinger Pete Seeger celebrated the law in doggerel a few years later: "McKinley, that staunch old Republican/ He signed it right on the line/ Then for seventy years they ignored it/ The law called 'Eighteen Ninety Nine.'" Peter Seeger, "Bring Back Old 1899," © 1973, Stormking Music, NYC.

obstruction of waterways by bridges, wharves, dredging, dumping, and all the manifold activities of a burgeoning industrial economy.⁴

From the districts the officers looked out on a chaotic scene. New England's streams were fouled by sawmill waste; in California, hydraulic mining wrecked rivers and farms alike; urban waterways were the refuse bins of the cities. Bridge building had become a splendid art carried on in a legal wilderness of special laws by Congress and the states. All these activities encroached, as the engineers were well aware, upon constitutional powers that the government had long claimed but seldom exercised. Since John Marshall's time, the power over navigation—derived from the commerce clause of the Constitution—had been treated by the courts not only as a necessity of commerce and defense, but as a basic assertion of sovereignty. The nation did not own the water in streams or the land beneath the water, but the federal government did claim the right of assuring free navigation to all. Before the Civil War, this claim had been largely theoretical. The postwar investment in civil works indicated that it would not long remain so.⁵

Important forces on the local level were already working to bring federal regulation of the waterways. A decade earlier, in the 1850s, the New York Chamber of Commerce had begun to search for a way to stop the dredging, filling, dumping, and construction work that were endangering the nation's greatest port. In 1856, at the chamber's request, the state appointed a commission to investigate the problem. Assisted by naval and coastal survey officers and the chief of engineers, the commission held extensive hearings and recommended creation of a board to regulate building and dumping in the harbor. In 1860 the New York legislature passed a law to meet the chamber's wishes, only to encounter complaints from the same group that the law was ineffective. Local regulation did

⁴ Forrest G. Hill, *Roads, Rails & Waterways: The Army Engineers in Early Transportation* (Norman, 1957), 207–208; W. Stull Holt, *The Office of the Chief of Engineers of the Army: Its Non-Military History, Activities, and Organization* (Baltimore, 1923), I, 136; *Annual Report of the Chief of Engineers for 1889* (Washington, D.C., 1889), I, 16.

⁵ Lt. Col. Jared A. Smith to Chief of Engineers, Dec. 1, 1890, National Archives, Record Group 77, file 7063 (hereafter cited as NA, RG plus appropriate Record Group and file number); Casey to Endicott, Feb. 21, 1889, NA, RG 77, Letters Sent, Vol. 7; California debris cases, NA, RG 60, Letters Received, No. 221 and Central Files, No. 186; *Annual Report of the Chief of Engineers for 1912* (Washington, D.C., 1912), II, 2541. A basic text on the commerce clause is Felix Frankfurter, *The Commerce Clause under Marshall, Taney & Waite* (Chicago, 1964).

not work, for the harbor straddled two states, and the New Yorkers felt that their New Jersey neighbors could not be counted on to protect their common property.

Consequently, the chamber turned to the federal government, sponsoring a bill which was introduced in the U.S. Senate to create a national harbor board of nine members. Complex and vague, the bill received no support and soon perished. But the chamber did not give up. On January 17, 1876, Representative Abram S. Hewitt introduced a new and much stronger bill making it unlawful to "cast, throw, empty, or unlade, or cause, suffer or procure to be cast, thrown, emptied, or unladen" any of a long list of waste substances "into any port, road, roadstead, harbor, haven, navigable river, or other waters of the United States. . . ."⁶

The bill was sent to the House Committee on Commerce and there interred. Yet it was to prove a legislative Lazarus that rose not once but many times. Met with indifference by Congress, Hewitt's plan was endorsed by Brig. Gen. Andrew A. Humphreys, the chief of engineers, who evidently saw in it a useful tool for countering obstruction of the waterways. Later in the year, Humphreys sent Congress a new bill that included Hewitt's refuse proposal and much more besides. Complaining of "serious injury to navigable waters," Humphreys proposed to outlaw, among other things, dumping, construction, filling, or bridge-building except on authorization of the Secretary of War.⁷ Since the Secretary presumably would give his permission in written form, Humphreys's draft contained a strong hint of a permit power. In these proposals, the New York congressman and the chief of engineers put forward virtually every basic idea contained in future laws to prevent obstruction of the waterways.

⁶ *Reports of the New York Harbor Commission of 1856 and 1857* (New York, 1864); *Tenth Annual Report of the Chamber of Commerce of the State of New York, for the Year 1867-68* (New York, 1868), 18, and *Eleventh Annual Report* (New York, 1869), 65; *Laws of the State of New York Passed at the Eighty-Third Session of the Legislature* (Albany, 1860), 1063-1065; *S. Bill 563*, 40 Cong., 2 sess. (1868); and *H.R. Bill 1079*, 44 Cong., 1 sess. (1876).

⁷ Congress had asked for a report on what laws might be necessary to prevent private injury to public works; Humphreys interpreted "works" to mean every waterway on which federal money had been spent. *Cong. Rec.*, 44 Cong., 1 sess. (1876), 439; *U.S. Statutes at Large*, XIX, 139; *Annual Report of the Chief of Engineers for 1877* (Washington, D.C., 1877), I, 829-830. See also *S. Rept. 224*, 50 Cong., 1 sess. (1888), 2. Humphreys, a distinguished member of the Corps of Topographical Engineers before the Civil War, served during that struggle as chief of staff of the Army of the Potomac and commanded the Second Corps at Appomattox.

But at the time Humphreys was no more successful than Hewitt in getting action on his proposal. Over the next decade, the Corps' efforts at reform met many obstacles. The problem of obstruction provoked no feeling of crisis, or indeed of widespread interest, on Capitol Hill. The lower house, in particular, was vulnerable to local pressures and to dilatory action; it repeatedly let reform bills expire. In both houses, moreover, there were strong hostile lobbies at work. Efforts in the late 1880s to win the Secretary of War even a limited power over bridge-building provoked an angry reaction from railroad executives. Like the president of the Michigan Central, many railroad men believed that "such power must at all times be detrimental to some of our large interests. . . . [This] is carrying centralization too far."⁸

And yet the Corps did get congressional action on some basic regulatory measures during the 1880s. After all, the waterways were not without defenders, in and out of Congress. The national farmers' movement promoted river improvement in the belief that competition from water carriers, real or potential, would drive down railroad rates.⁹ There were also congressmen who took a professional interest in waterways legislation. Among those who would back the Refuse Act, Senator Arthur P. Gorman of Maryland was a former president of the Chesapeake & Ohio Canal Company. Senator Joseph N. Dolph of Oregon was a partner of Henry Villard, whose Oregon Railway and Navigation Company and Northern Pacific Railroad depended significantly on waterway improvements, both on the Columbia River and the Great Lakes. Representative Newton P. Blanchard of Louisiana was typical of the large and determined congressional bloc which spoke for the flood-stricken alluvial valley of the Mississippi.

These men and their like sat on the commerce committees, learned a bit of the jargon of hydraulic engineers, and sponsored legislation aimed at fostering water commerce and flood control. Often, as the following will make clear, they worked closely with the Corps—the interested federal agency in their field. With the backing of such men, and in the face of strong opposition, new laws

⁸ *New York Times*, Feb. 5, 1889; see also references below on the Dolph bills.

⁹ On the views of the farmers' movement and the Corps' support for it, see, for example, *Cong. Rec.*, 43 Cong., 2 sess. (1875), 1442; *Proceedings of the Convention for the Improvement of the Mississippi River* (Washington, D.C., 1884), 31; *H. Ex. Doc.* 56, 39 Cong., 2 sess. (1866), Part 2, 236–243.

were enacted which granted the Secretary of War wide powers to regulate bridges, clear wrecks from navigable streams, and establish harbor lines.¹⁰ In 1887, Dolph, Gorman, and Blanchard began urging Congress to pass a comprehensive antiobstruction law.

This revival of General Humphreys's decade-old proposal was triggered in part by the problem of hydraulic mining in the Far West. High-pressure conduits used by gold miners had washed tons of rubble into the rivers of California's Central Valley, provoking a furious reaction from farmers, precedent-making lawsuits, and intervention on the farmers' behalf by the Justice Department and the Corps of Engineers. Local economic pressures then caused many Californians to demand the reopening of the mines. In 1887, the year when this reaction reached its greatest strength, Senator Dolph introduced in the 49th Congress a revised and updated version of Humphreys's earlier draft. Evidently some senators saw in the bill a means of substituting federal for state controls in the event that California permitted the miners to begin work again. Senator Gorman of Maryland, Dolph's colleague on the Commerce Committee, declared that one of the bill's "main objects" was to "prevent persons engaged in hydraulic mining from forcing into navigable streams the immense deposits thereby occasioned."¹¹

Backed vigorously by the chief of engineers and the Secretary of War, the Dolph bill passed the Senate twice, in the 49th and 50th Congresses. But each time it was placed so low on the House calendar that it failed to come to a vote. Meantime, the New York Chamber of Commerce had resumed its fight for a refuse law. In 1886 it succeeded in having a section written into the rivers and harbors act which forbade dumping in New York harbor—but no penalty was provided for violators. Two years later, under the leadership of Senator William M. Evarts, the New York Harbor Act was passed, giving the War Department wide powers over the

¹⁰ *Dictionary of American Biography* (New York, 1957), I, 351, III, 360–361, IV, 434–435. Dolph was a partner in the Villard enterprises, attorney for Villard, and a vice-president of the Northern Pacific. Major reform laws of the decade can be found in *U.S. Statutes at Large*, XXII, 208, XXIII, 148, XXIV, 329, XXV, 400, 425.

¹¹ In 1887 a law permitting revival of hydraulic mining failed in the California legislature by only two votes. A state refuse act was smashingly defeated the same year. Robert L. Kelley, *Gold vs. Grain: The Hydraulic Mining Controversy in California's Central Valley* (Glendale, Calif., 1959), 271–273. Gorman's statement is in *Cong. Rec.*, 50 Cong., 1 sess. (1888), 2338.

port. Once again New York had led the way. The passage of the act was a good omen for the backers of the Dolph bill.¹²

And yet, despite this evidence of progress, the 51st Congress seemed at first to be no more willing than its predecessors to pass a general refuse act. When Dolph introduced his bill for the third time, the Senate passed it, but the House as usual took no action.¹³ At this point Dolph and his friends resorted to a new tactic. In the Gilded Age, rivers and harbors bills were mighty political argosies that floated many an odd cargo into port. The laws regulating bridges and harbor lines had passed Congress as parts of such acts. When it became clear that the Dolph bill would fail again, its backers turned to the rivers and harbors bill of 1890, which was entangled in a congressional quarrel. Though passed by the House, it had been tagged with some 250 amendments in the Senate; the House refused to concur in the changes, and a conference committee had to be chosen to iron out differences.

Since Dolph and Louisiana's Representative Newton P. Blanchard sat on the commerce committees, where the omnibus bills had been written, both became members of the conference. This gave them their opportunity, and they used it. Led by Dolph, the Senate conferees offered the refuse provision as an amendment. Blanchard and his colleagues—authors of a similar measure—agreed, and the whole package of antiobstruction measures was incorporated into the rivers and harbors bill.¹⁴ The long fight for approval was now all but won. The bill was called up in the last days of the session. In the House, impatient members cried, "Vote! Vote!" when efforts were made to debate. They did not want to lose their chance of voting for the great pork-barrel measure, for the November elections were at hand. Hence the House did not debate the anti-obstruction sections, while the Senate did not even permit them

¹² Casey to Endicott, Feb. 21, 1889, NA, RG 77, Letters Sent, Vol. 7; *H. Rept.* 2760, 50 Cong., 1 sess. (1888); *S. Bill* 27, 50 Cong., 1 sess. (1888); *U.S. Statutes at Large*, XXV, 209; *New York Times*, March 23-24 and April 3, 1888. A useful account of the Dolph bills will be found in *United States Supreme Court Reports, Lawyers' Edition* (Rochester, 1960), IV, 914-915.

¹³ *Annual Report of the Chief of Engineers for 1889* (Washington, D.C., 1889), I, 16-17; *H. Rept.* 477, 51 Cong., 1 sess. (1890); *Cong. Rec.*, 51 Cong., 1 sess. (1890), 1313, 3699.

¹⁴ *S. Rept.* 1378, 51 Cong., 1 sess. (1890); *Cong. Rec.*, 51 Cong., 1 sess. (1890), 8607, 9558, 9559, 9813; *U.S. Statutes at Large*, XXVI, 452.

to be read. Enactment was swift, and on September 19, 1890, President Benjamin Harrison signed the omnibus bill into law.¹⁵

Now the Corps began the work of enforcement. Five hundred copies of the antiobstruction sections were printed and distributed to industries and local governments by the districts and divisions. Engineering officers, private citizens, and the Missouri River Commission filed complaints with the Justice Department. Attorney General Richard Olney ruled that the Refuse Act was constitutional, and several circuit courts upheld him. Some U.S. attorneys took vigorous action against violators, though others acted reluctantly, or not at all. Typical cases included a sawmill owner who was arrested on a district engineer's complaint that he was dumping mill waste into the Ohio River. Another involved the city of Cleveland, which was cited for allowing its dredging contractors to dump spoil into Lake Erie without a permit. Other industrial dumpers cleaned up their operations when warned that the government would act.¹⁶ In short, the law of 1890 proved to be enforceable, and under it some modest victories were won. But in many essentials, it was not a success.

Indeed, as Attorney General Olney remarked, the law was "infelicitously, if not clumsily, drawn." Useful ideas had been side-tracked in the bruising congressional battles, and, like most pioneer legislation, the law said too much on some subjects and not enough on others. The Refuse Act, for example, forbade dumping which tended "to impede or obstruct navigation." This apparently harmless statement was interpreted by the Attorney General to mean that the government must prove that an obstruction resulted from each offense. The hapless prosecutor was left in a difficult position, since most navigable streams were too large to be obstructed except by the accumulation of many discharges over long periods of time. At best, the Corps inherited a difficult job of gathering technical evidence. And this pointed up another weakness: no police force had been provided. Hewitt had proposed to pay informers; Humphreys had wished to empower customs officials to make arrests. But neither idea found a place in the Rivers and Harbors Act of 1890.

¹⁵ The House vote was 102 to 7; the Senate concurred without a division. *Cong. Rec.*, 51 Cong., 1 sess. (1890), 9822, 9830.

¹⁶ Corps reprints are preserved in NA, RG 77, files 6101 and 6499. Correspondence on the cited cases is in NA, RG-60, Letters Received, files 14638, 15351, and 11659. For nuisances abated without prosecution, see Letters Received, file 15084.

Finally, the prejudices of society added to the problems of enforcement. The idea of culpability was so deeply engrained in Victorian times that judges and juries alike often proved unwilling to convict unless malice could be shown. In such a case the prosecutor's work became almost impossible.¹⁷

As problems piled up, the engineers began to seek a new law. Technical improvements sought by the Corps appeared in the Rivers and Harbors Act of 1894; the phrase "to impede or obstruct navigation" was dropped and the provision for paying informers was restored. But the result was a jumble of old and new ideas. The law needed a thorough reworking. By 1896 the engineers had evidently determined to rewrite the law, for they were able to act quickly when an opportunity came their way. The House Committee on Rivers and Harbors asked the Corps for help in drafting that year's omnibus bill. The engineers sent to the Hill a thirty-eight-year-old attorney named George W. Koonce, then rounding out the first decade of an astonishing sixty-year career with the Corps. A tall, deliberate North Carolinian, his manner suggested by his nickname "Judge," Koonce was well equipped both in ability and personal style to work with Congress. He later recalled how the committee labored until two in the morning, refining the language of the bill and blue-pencilling obscure phrases. When the job was finished and everyone was in a relaxed mood, Koonce thought the time propitious to suggest that "the bill needed just one more provision to make it perfect"—a section directing the Secretary of War to compile the laws relating to obstruction and to suggest necessary changes. The committee agreed, and the provision appeared as section two of the Rivers and Harbors Act of 1896. Now the Corps had its chance to propose a sweeping reform.¹⁸

Koonce prepared a draft bill and the chief of engineers submitted it to Congress through the Secretary of War. It was printed as a House document in 1897, but then languished for two years because there was no rivers and harbors bill to serve as its vehicle. In

¹⁷ On enforcement problems, see George W. Koonce, "Federal Laws Affecting River and Harbor Works," lecture at Ft. Humphreys, Va., April 23, 1926, Legal Library, Office of the Chief of Engineers, Washington, D.C.; trial record and related correspondence in *United States v. Zophar Mills* (1899), NA, RG 60, Eastern District of New York, file 2194.

¹⁸ *U.S. Statutes at Large*, XXVIII, 278, 360, 362; XXIX, 234; Koonce, "Federal Laws Affecting River and Harbor Works"; interview with Joseph Kimbel (a former subordinate of Koonce), Washington, D.C., Nov. 20, 1972.

1899, a new omnibus bill passed the House and came before the Senate. Opportunity beckoned once again. Senator William P. Frye of Maine, Republican wheelhorse of the Commerce Committee, wrote to Col. Alexander Mackenzie, Koonce's immediate superior, asking if he wanted any changes in the bill, and suggesting he act quickly if he did. Mackenzie and Koonce secured a copy of the House document containing their draft, cut off the heading, changed the numbers of the sections, and sent it to the Senate committee.¹⁹

The insertion of sections nine through twenty—the complete package of antiobstruction legislation desired by the Corps—was carried out smoothly by the imperturbable Frye. To the few questions that were asked on the floor he replied quietly that the amendments prepared by the chief of engineers were a mere codification of existing law, involving no real change at all. No one rose to challenge his assertion. Hot arguments raged for days on the pork-barrel authorizations and a proposed isthmian canal survey, but silence attended the rebirth of the antiobstruction law. When the echoes of debate died away, the rivers and harbors bill passed without difficulty.²⁰

An exceptionally broad and durable new law had come into being. Despite Frye's remarks, the changes which Koonce and Mackenzie had introduced were real and sweeping, and they affected every possible form of obstruction. The strongest proposals of a generation had been combined, simplified, and carried to their logical conclusion. While section thirteen—the new "Refuse Act"—forbade dumping without a permit, other sections put a similar ban on the building of wharves and piers, bridges and bulkheads, forbade obstruction by wrecks, and reaffirmed the Secretary of War's power to establish harbor lines. And the loopholes which had caused the engineers trouble in the past were closed. The new Refuse Act, for example, no longer enumerated forbidden types of dumping; it merely outlawed the casting of "any refuse matter of any kind or description" into the waterways. As in 1894, the words "to impede or obstruct navigation" were omitted. To meet the problems of enforcement, customs officials and Corps personnel were empowered to arrest violators. As in the act of

¹⁹ *H. Doc. 294*, 54 Cong., 2 sess. (1897); Koonce, "Federal Laws Affecting River and Harbor Works." Mackenzie, principal assistant for rivers and harbors, became chief of engineers in 1904.

²⁰ *Cong. Rec.*, 55 Cong., 2 sess. (1899), 2296-2298.

1890, the Secretary of War was authorized to issue permits for the various activities forbidden by the antiobstruction sections. Without such a permit, any change in the course or condition of a navigable waterway would be illegal.²¹

The new law was broad; the part of it called the Refuse Act was broader than anybody yet imagined. Dumping anything into any navigable stream without a permit had become a federal misdemeanor. This stark prohibition ended once and for all the problem which the limiting phrase "to impede or obstruct navigation" had caused in the Refuse Act of 1890.²² But the new language also created the most baffling feature of the Refuse Act of 1899—the fact, as Ray Druley has said, that its "prohibitions . . . were broader than its purpose."²³ The engineers and the old Commerce Committee hands like Senator Frye understood well enough that they were writing a navigation law. For decades to come all the agencies of government agreed with them. But no hint of a limiting purpose appeared any longer in the language of the law—and from this fact, in time, extraordinary consequences followed.

For years, however, the Refuse Act functioned only as a rather minor statute to protect navigation. The pattern of interpretation was set early. In 1910 a group of New Yorkers, aided by the Corps' Lt. Col. William M. Black, tried to invoke the act against a proposed sewer, only to be met by a firm ruling from the judge advocate general that pollution control was a function of the states alone. A year earlier citizens of Santa Barbara, California, had protested a War Department decision to allow Union Oil Company to lay a pipeline in the Pacific Ocean. Oil spills, the group warned, would result in "injury to the bathing facilities for which Santa Barbara is famous." Here, too, the judge advocate general rejected the protest on the grounds that a permit could be denied only to protect navigability, and the Attorney General endorsed his decision. Indeed, everyone in authority seemed to agree: regardless of its language, the Refuse Act had no purpose but to strengthen Congress's hand in its constitutional task of keeping the waterways open for shipping.²⁴

²¹ *U.S. Statutes at Large*, XXX, 1151–1153.

²² Koonce, "Federal Laws Affecting River and Harbor Works."

²³ Druley, "The Refuse Act of 1899," 3.

²⁴ [Charles R. Howland], *A Digest of Opinions of the Judge Advocates General of the Army*, 1912 (Washington, D.C., 1912), 284, 752–753, 773; Oliver to Dougherty, April 1, 1907, NA, RG 60, file 144360.

The same viewpoint shaped the Corps' enforcement policies. The Refuse Act was only one of twelve sections in the Rivers and Harbors Act of 1899 that dealt with obstructions—and it was by no means the most important. That distinction was reserved for the more general section ten, which forbade any change in the "course, location, condition, or capacity" of waterways by any obstruction not "affirmatively authorized" by Congress. These sweeping negatives added up to a fundamental assertion of federal power, while the Refuse Act merely made the meaning of the law explicit in a few particular cases. Hence, enforcement of section ten became the keynote of a nationwide permit program set up by the Corps and funded by Congress in 1905. This program quickly became part of the engineers' daily work. Anyone—individual, company, or local government—who wished to build, or dredge, or make any other change in a navigable waterway soon learned that he must submit a formal and detailed permit application, accompanied by plans and drawings, to the local Corps district. The engineers passed on the applications, issued or denied permits, went in search of violators, arrested offenders, and turned evidence over to the Justice Department for prosecution.²⁵

The same line of thought that dictated a permit program under section ten rejected it under the Refuse Act. Nationwide a few hundred permits were issued, but purely on an *ad hoc* basis, since dumping did not threaten navigation enough to justify an elaborate system of formal controls. Many dumpers were prosecuted on complaints by the engineers, but here again Corps action was *ad hoc*, following usually on the discovery of some dangerous discharge, especially one that created a fire hazard for shipping. Needless to say, no effort was made to carry out literally the law's blanket prohibition against casting anything whatever into a waterway. The enforcement of the Refuse Act, like its interpretation by the Judge Advocate General, was thoroughly conventional.

Yet the language of the act was unconventional, and soon the obscure provision against dumping began to live a life of its own. Whatever guards tradition might put upon it, the Refuse Act simply functioned differently from the rest of the antiobstruction package. Any other section could be enforced with little effect,

²⁵ On the section ten program, see Koonce, "Federal Laws Affecting River and Harbor Works"; and the yearly summaries under the heading, "Miscellaneous Civil Works," in the *Annual Reports of the Chief of Engineers*.

good or bad, on water quality. But enforcing the Refuse Act necessarily changed the quality of the nation's navigable waters and the lives of every creature that used them. Desirable ecological effects, for example, must have followed from the Corps' prosecution of oil spills. In 1924, to protect navigation, public health, and the fisheries, Congress forbade oil discharges in tidal waters. In the years that followed, the engineers began using the Refuse Act to prevent spills on inland streams as well. In these and in random cases involving garbage spills and like nuisances, the Refuse Act, despite its provenance and purpose, functioned as if it had been intended as an environmental law.²⁶

Paradoxes appeared, too, in legal interpretation of the act. In 1918 a court ruled that section thirteen forbade dumping *per se*, without regard to its effect on navigation, and the point was generally upheld in the years that followed. Despite this, courts construed the act narrowly, largely by taking very restricted views of what constituted refuse, and what was meant by the verb "deposit." Judges debated whether depositing implied a willful act, or a negligent one, or a purely accidental one, and whether the word "refuse" might signify valuable as well as worthless substances. Obscure as such points might appear to the nonlawyer, the courts took the position that since the Refuse Act was a criminal statute, it had to be strictly construed. Though the courts interpreted the language of the Refuse Act literally, their literalism was of a special sort, which narrowed rather than expanded the meaning of the act.²⁷

To be sure, the general trend of twentieth-century constitutional interpretation favored ever broader views of federal power, especially by reinterpreting the power to regulate commerce. This expansive trend in constitutional law had little effect on the Refuse Act, however, until the pressure of events gave the old law a new relevance during the 1960s. In that decade a variety of grave social crises—pollution, urban decay, racial stress, the Vietnam War

²⁶ Gunnar K. Mykland, "The Enforcement Phase of Pollution Abatement," *Water and Sewage Works* (June 1970), 213; Koonce, "Federal Laws Affecting River and Harbor Works"; *U.S. Statutes at Large*, XLII, 604. Cases of importance that dealt with oil spills included *La Merced*, 84 F. 2d. 444 (1936); *U.S. v. The Delvalle*, 45 F. Supp. 746 (1942); *U.S. v. Ballard Oil Co. of Hartford*, 195 F. 2d. 369 (1952); *U.S. v. Standard Oil Co.*, 16 L. Ed. 2d. 492 (1966). The garbage discharge case was *The President Coolidge*, 101 F. 2d. 638 (1939).

²⁷ *Myrtle Point Transp. Co. v. Port of Coquille River*, 168 P. 625, 86 Or. 311 (1918).

—created demands for new priorities in almost every aspect of life. The need to restore the damaged environment was debated throughout the decade and then, triggered by such events as the Santa Barbara oil spill of 1969 and the mercury scare of 1970, exploded into an impassioned crusade. As the Vietnam War faded, militant youth found a new outlet in “eco-tactics,” but older Americans became deeply involved in the movement as well. With pressures for change rising, legal interpretations, like other parts of the established order, began to bend with the current of events. The Refuse Act changed too, becoming, first, an antipollution law and, then, a decade later, a full-scale program of environmental control for the nation’s waterways.

The transformation of the Refuse Act can be dated from 1960, when the Supreme Court ruled on the case of *United States v. Republic Steel*. Already nine years old, this was a legal dispute of the most conventional sort. The steel mill in the case stood on the Calumet River in Illinois—a “project stream,” in Corps lingo, where the local district maintained a twenty-one-foot depth by dredging. Drawing its water from the river, the mill returned it charged with suspended particles. Soundings demonstrated that the river was shoaling below the plant. Wishing to force Republic to dredge the deposits, the Corps complained to the Department of Justice, which filed suit. The district court granted an injunction which the court of appeals dismissed on the grounds that matter in suspension was not refuse. The government then appealed to the U.S. Supreme Court. Acting on the technical issue, the justices reversed the decision of the court of appeals. But the language used by Justice William O. Douglas in speaking for the slim 5-to-4 majority gave the decision an effect that went far beyond the issue at stake. “We read the act of 1899 charitably,” he said, “in light of the purpose to be served. The philosophy of the statement of Mr. Justice Holmes . . . that ‘A river is more than an amenity, it is a treasure,’ forbids a narrow, cramped reading either of Sect. 13 or of Sect. 10.”²⁸

Signalling a major change of interpretation, these words made the case a landmark. Douglas’s demand for a “charitable” reading was reinforced six years later, when in a new test case the court

²⁸ Koonce, “Federal Laws Affecting River and Harbor Works”; *U.S. v. Republic Steel Corp.*, 80 S. Ct. 884, 362 U.S. 482, 4 L. Ed. 2d. 903 (1960), rehearing denied 80 S. Ct. 1605, 363 U.S. 858, 4 L. Ed. 2d. 1739, on remand 286 F. 2d. 875.

ruled for a broader interpretation by a vote of 6 to 3. In *United States v. Standard Oil Co.* the government charged that the corporation had violated section thirteen by accidentally spilling airplane fuel into Florida's St. Johns River. The district court dismissed the indictment on the grounds that commercially valuable gasoline could not be refuse. But in the Supreme Court, Douglas and the majority held that the lower court's decision was a "narrow, cramped reading" of the law. "This case," noted Douglas solemnly, "comes to us at a time in the Nation's history when there is greater concern than ever over pollution—one of the main threats to our free-flowing rivers and to our lakes as well." Repeatedly quoting his own words in the *Republic Steel* decision, Douglas held that, except for municipal sewage, the Refuse Act forbade the dumping of "all foreign substances and pollutants."²⁹

This reversal of seven decades of legal interpretation did not go unchallenged. Speaking for the minority, Justice John Harlan charged that the court was in effect passing a new law. The intent of Congress, he said, had never gone beyond regulating navigation. To interpret "refuse" as "pollutant" was to seek a "tortured meaning" in defiance of the dictionary. Douglas's construction of the law meant that "dropping anything but pure water into a river would appear to be a federal misdemeanor." The Refuse Act, he reminded the court, was a criminal statute. In this case it was being used against a corporation, but a person might just as easily be charged, and the minimum punishment of \$500 or thirty days in jail was "not an insignificant penalty for dropping foreign matter into a river." If Congress wanted an antipollution law, Harlan concluded, it ought to pass one.³⁰ Yet, pithy as Harlan's summary and defense of the traditional interpretation were, Douglas and the majority had met the practical needs of the time. The effect of their decision was widespread. By 1969 federal courts were ruling that almost any substance was refuse—even pure but heated water—and that any discharge, however inadvertent, constituted the depositing of refuse within the meaning of the law. The Mosaic "thou shalt not" of the Refuse Act was at last being enforced as it had been written—except in the matter of permits. But a permit program was not far off.

²⁹ *U.S. v. Standard Oil Co.*, 16 L. Ed. 2d. 492, 494 (1966).

³⁰ *Ibid.*, 497–500.

The Corps as well as the courts had felt the impulses of the 1960s. In 1958 Congress had required the Corps to consult the conservation agencies before it issued section ten permits to dredge and fill. In 1966, the year of the *Standard Oil* decision, the engineers denied a permit to a real estate developer in Tampa, Florida, on the grounds that his plan to build a causeway in Boca Ciega Bay would endanger wildlife. The developer brought suit; the Justice Department defended the Corps' action. After long litigation, the fifth circuit court of appeals ruled for the government in 1970, though only after the passage of the National Environmental Policy Act in 1969 had decisively strengthened the government's hand. The Corps had won a precedent-making decision; but long before the final judgment was rendered, a major redefinition of the organization's own priorities was under way. In 1966 the chief of engineers, Lt. Gen. Frederick W. Cassidy, set up a recreation and environmental branch under his office's planning division, and, in a report to President Lyndon B. Johnson, placed environmental quality beside economic efficiency as a "primary goal" of the Corps. In 1967 a memorandum of understanding with the Interior Department signaled a more vigorous effort to use the section ten permit power to prevent damage to wildlife. Cassidy's successor, Lt. Gen. Frederick J. Clarke, made new environmental initiatives a major theme of his tenure as chief of engineers. He formed an environmental advisory board and restructured the Corps to emphasize planning, conservation, and resource management.³¹

With the Corps changing and the law undergoing redefinition, an environmental permit program under the Refuse Act became a definite possibility. A staff report prepared in February 1970 for a subcommittee headed by Representative Henry Reuss of Wisconsin urged the Corps to prosecute polluters more vigorously under the old *ad hoc* system. Newsman Jack Anderson devoted his column of March 18, 1970, to the report and flailed the Corps for having

³¹ *Zabel v. Tabb*, 430 F. 2d. 200 (1970), cert. denied, 39 USLW 3360; *U.S. Statutes at Large*, LXXII, 563, LXXXIII, 852; interview with Jacobus J. Lankhorst, assistant to general counsel for civil functions, Office of the Chief of Engineers, Sept. 18, 1972; Thomas M. Clement, Jr., and Glenn Lopez, *Engineering a Victory for Our Environment: A Citizens' Guide to the U.S. Army Corps of Engineers* (Washington, D.C., 1971); "The New Corps," *Science News*, XLV (1969), 122; *Environmental Guidelines for the Civil Works Program of the Corps of Engineers: Engineer Regulation 1165-2-500* (N.p., 1970); "The Image Maker," *Constructor: The Management Magazine*, LV (1973), 18-23.

done nothing since 1899 to end pollution on American rivers. These stirrings in Congress and the press were spotlighted by a dramatic event when, a few months later, high mercury levels were discovered in food fish. Finding that the Water Pollution Control Act of 1948 provided no effective effluent controls, the Justice Department turned to the Refuse Act, and in July 1970 brought to bay eleven of the largest mercury dumpers.³² No more striking advertisement for the old law could have been devised.

Clearly, Reuss had grasped a live issue. Exploring the possibilities of the law, he urged the engineers in June to use the permit provisions of section thirteen to end pollution on the nation's waterways—in effect, to harness the Refuse Act to the aims of the National Environmental Policy Act. Meantime, Corps attorney J. J. Lankhorst, a specialist in civil works, had been urging Robert E. Jordan III, the Assistant Secretary of the Army for civil functions, to take the lead in presenting such a program to Congress. At a hearing on July 29, Jordan announced that the Corps was advising all district engineers “that permits will be required for future discharges into navigable waters and that applications for such permits must be accompanied by appropriate state certification.” Further, the Corps would demand data on chemical content, temperature, and toxins in all effluents. This program involved great difficulties for the Corps: no funding existed for it; and insiders at the Office of the Chief of Engineers shook their heads over the ferocious political flak that could be expected from outraged businessmen. But the decision had been taken, and Henry Reuss was enthusiastic, hailing the Corps for having provided “great leadership . . . to protect our Nation's waters, not only for navigation, but also for environmental, ecological, aesthetic, and water quality purposes.”³³

To their credit, congressional leaders followed up on the start that Reuss and Jordan had made. Senator Philip A. Hart of Michigan took the lead, urging Congress to add \$4 million to the

³² “Our Waters and Wetlands: How the Corps of Engineers Can Help Prevent Their Destruction and Pollution,” *H. Rept. 91-917*, 91 Cong., 2 sess. (1970); *Washington News-American*, March 18, 1970; House Conservation and Natural Resources Subcommittee, *Hearings on Mercury Pollution and Enforcement of the Refuse Act of 1899*, 92 Cong., 1 sess. (1971), 121-125, 269-300.

³³ House Conservation and Natural Resources Subcommittee, *Hearings on Mercury Pollution and Enforcement of the Refuse Act of 1899*, 454-517; interview with Jacobus J. Lankhorst, Sept. 27, 1973.

public works appropriation bill. With Reuss and other legislators he urged President Richard Nixon to support the program. The political clout of the environmental movement received a remarkable tribute on December 23, 1970, when a presidential order was issued instructing the Corps to "implement a permit program under . . . Section 13 of the Act of March 3, 1899."³⁴ As the Corps labored to set up machinery to process an expected 40,000 permit applications, the long evolution of the Refuse Act seemingly came to a climax. With national approval, the act was now to be used for the purpose that Justice Harlan had ridiculed only five years earlier—to make a federal misdemeanor of the act of dropping anything but pure unheated water into a navigable stream.

As it turned out, however, a complicated epilogue followed. Justice Harlan's dissent had been prophetic in at least one respect: a new antipollution law, embodying the permit program but going beyond it, was urgently needed. Nothing in the Refuse Act defined how clean the waterways ought to be, or what technology had to be used to purify them, or how soon the work of renewal had to be accomplished. By passing the Water Pollution Control Act Amendments of 1972 over President Nixon's veto, Congress gave the nation a sweeping and fairly definite overall policy on the major points in dispute. The new act set up a permit program under the Environmental Protection Agency to carry out the work begun by the Refuse Act program. All permits issued under the older law were declared valid; and the unqualified breadth and ruthless simplicity of the Refuse Act insured that it would remain a formidable weapon in the hands of vigorous U. S. attorneys. Important cases continued to be won under the act, and—though shorn of the permit program—the measure, in many ways remained what a newspaper had called it in 1971: "the most powerful weapon in the . . . arsenal against pollution."³⁵

Many organizations and many men had contributed to the long process of shaping and reshaping the Refuse Act, but clearly the role of the Corps had been a major one. In the commerce clause of the Constitution the engineers had found new powers for the na-

³⁴ Executive Order 11574, Dec. 23, 1970, in *Federal Reporter*, XXXV, 250.

³⁵ *U.S. Statutes at Large*, LXXXVI, 816-904; *Winston-Salem Journal*, Oct. 24, 1971. The new law also rendered moot a curious decision which had temporarily blocked the Corps' permit program. See *Kalur and Large v. Resor, Ruckelshaus, and Clarke*, 3 ERC 1458 (1971).

tion to use in protecting the waterways from man-made obstructions. They had helped to write and codify a law which cast these powers into an exceptionally broad, durable, and useful form. The Corps had set up a permit program that functioned effectively in protecting navigation and provided a model for the environmental permit program that followed. In transforming the Refuse Act from navigational to environmental law, the engineers had played a key role, though of necessity they had followed the lead of Congress and the courts. Despite their stereotyped image as conservatives or worse, they had broken much new ground for the nation in nearly a century of working with the Refuse Act and the other laws against obstructing the waterways. In large part, it was because of the Engineers that the nation's waters had been freed of obstructions, and might in time be cleaned of pollutants as well.